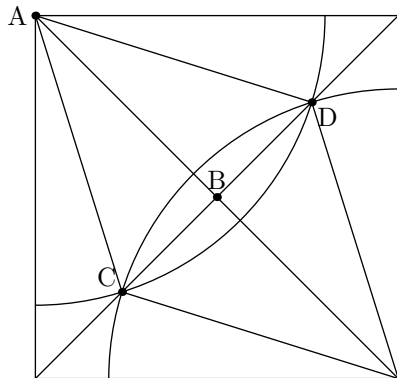


## Corrected solution to Part B question 1c

There are two errors in the answers to EPW2 Part B Question 1c. Thanks to Sina and Gaby for pointing these out.

The shared area consists of 2 congruent segments.



In the diagram  $\triangle ABC$  is right-angled. (The diagonals of a square are perpendicular.)

The length of the diagonal is  $\sqrt{2} \times 24^2 = 24\sqrt{2}\text{m}$  so AB is  $12\sqrt{2} \approx 16.97056$ .

The length of AC = 19.149m (as determined in 1b)

$$\begin{aligned}\angle CAB &= \cos^{-1} \left( \frac{AB}{AC} \right) \\ &= \cos^{-1} \left( \frac{16.97056}{19.1492} \right) \\ &= 0.482 \text{ radians}\end{aligned}$$

$$\therefore \angle CAD = 0.963$$

$$\begin{aligned}\text{The area of each segment} &= \frac{1}{2} \times 19.149^2 (0.962 - \sin 0.963) \\ &= 26.08\text{m}^2\end{aligned}$$

$$\begin{aligned}\text{The shared area} &= 2 \times 26.08 \\ &= 52.15\text{m}^2\end{aligned}$$